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Advances in Data Analysis and Classification (ADAC)

Theory, Methods, and Applications in Data Science

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Call for Papers

Special Issue on Models and Learning for Clustering and Classification

The journal ***Advances in Data Analysis and Classification*** will publish a Special Issue on **Models and Learning for Clustering and Classification**[1].

This Special Issue aims at gathering papers in different areas like model-based clustering, mixture models, statistical learning in the framework of the supervised and unsupervised classification. The potential of such modeling approaches has become more and more apparent in the very last decades.

The increasing tendency now to collect datasets with a large number of units and variables of both numerical and categorical type in almost any area of scientific research, provides new challenges in statistical learning and model-based clustering, and necessitates the development of new approaches that take into account the extraction of the essential features and are able to represent underlying hidden structures and relations in data. Advances in this field should provide a principled statistical approach to a variety of still open and crucial questions like variable selection, robust classification, co-clustering, choice of the number of model components, model selection criteria, cluster recovery from noisy data, clustering and classification for high-dimensional data and functional data, dimensionality reduction, robust estimation of parameters, efficient algorithms for parameter estimation, etc.

Topics of particular interest may include, but are not limited to:

- Methodological innovations in all fields of statistical learning and model-based approaches for classification and clustering.
- Developments and applications of these methods in specific domains such as bioinformatics, biostatistics, business, data mining, epidemiology, finance, image analysis, machine learning, marketing, medicine, pattern recognition, etc.
- Development of specific computational and graphical tools.
- Robust modeling for data classification.

Researchers and practitioners are kindly requested to submit relevant and innovative papers for publication in this Special Issue.

[1] This is the main topic of the fifth **Workshop on Models and Learning for Clustering and Classification** (MBC^2 2020) which took place at the University of Catania (Italy) in September, 2020. See: http://mbc2.unict.it/

Submitted papers must contain original unpublished work that has not been submitted for publication elsewhere. All manuscripts submitted to this Special Issue will undergo the classical double-blind reviewing process.

Submission details. Papers should be written in *LaTeX,* and not exceed 20 pages (A4 or Letter size with 12 point, fully double-spaced font), including illustrations and tables. The front page of the manuscript must contain a concise and informative title, the names, affiliations, and addresses of all the authors, the e-mail address, telephone number of the corresponding author, an abstract of 150 to 250 words, and 4 to 6 keywords which can be used for indexing purposes. Further instructions for authors are given on the journal's homepage *http://www.springer.com/journal/11634/submission-guidelines*.

Manuscripts should be submitted using the "Submit manucript" button on the ADAC website *http://www.springer.com/journal/11634*, leading to the electronic submission system of the journal.

Important dates:

- Submission of full papers for the Special Issue: **December 15th, 2020** (earlier submission is encouraged).
- Notification to authors: **March 31, 2021** (tentative).
- Final papers: **June 30, 2021** (tentative).

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